

REMARKS

Summary

Claims 1, 2, 4-20, 22, 23, 25-32, 34-38, 41 and 43 stand in this application.

Claims 3, 21, 24, 33, 39, 40 and 42 have been canceled without prejudice. Claims 1, 4, 6, 11, 13, 20, 32 and 41 have been amended. No new matter has been added. Favorable reconsideration and allowance of the standing claims are respectfully requested.

Although Applicant disagrees with the broad grounds of rejection set forth in the Office Action, Applicant has amended claims 1, 4, 6, 11, 13, 20, 32 and 41 in order to facilitate prosecution on the merits.

Claim Objections

Claim 20 stands objected to based on claim informalities. Applicant submits that claim 20 has been amended in accordance with the instructions in the Office Action and withdrawal of the claim objection is, therefore, respectfully requested.

35 U.S.C. § 103

At page 2, paragraph 4 of the Office Action claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US 2003/0161393 to Ahn ("Ahn") in view of US 4,344,176 to Qureshi ("Qureshi"). At page 6, paragraph 6 of the Office Action claims 20-23, 25-38, 40-41 and 43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ahn in view of US 2006/0031275 to Cannon ("Cannon") and Qureshi. Applicant respectfully traverses the rejections, and requests reconsideration and withdrawal of the obviousness rejections.

Applicant has cancelled claims 3, 21 and 33 and has incorporated their subject matter into amended independent claims 1, 20 and 32 respectively. Therefore, the obviousness rejection with respect to claims 3, 21 and 33 will be addressed below with respect to the amended independent claims.

The Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness. According to MPEP § 2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

As recited above, to form a *prima facie* case of obviousness under 35 U.S.C § 103(a) the cited references, when combined, must teach or suggest every element of the claim. See MPEP § 2143.03, for example. Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness because the cited references, taken alone or in combination, fail to teach or suggest every element recited in claims 1, 2, 4-20, 22, 23, 25-32, 34-38, 41 and 43. Therefore claims 1, 2, 4-20, 22, 23, 25-32, 34-38, 41 and 43 define over the cited references whether taken alone or in combination. For example, claim 1 recites the following language, in relevant part:

wherein the timing error detector is adapted to detect an amount of timing error based upon an average of the values for first and second symbol samples minus a value of an intersymbol sample between the first and second symbol samples.

According to the Office Action, the missing language is disclosed by Ahn at paragraph [0058]. Applicant respectfully disagrees.

Applicant respectfully submits that Ahn fails to disclose the missing language of the claimed subject matter. For example, Ahn at the given cite, in relevant part, states:

If a polarity of the polarity form timing error is positive (+1), the loop filter 301c accumulates and provides the positive bandwidth values, and, opposite to this, if a polarity of the polarity form timing error is negative (-1), the loop filter 301c accumulates and provides the negative bandwidth values. Therefore, the bandwidth value from the loop filter 301c is a constant, and a multiplexer can be employed in place of a multiplier for selection of the loop filter bandwidth value, much hardware resource can be saved. This is made possible as the timing error value is not a data form, but a polarity form.

By way of contrast, the claimed subject matter teaches “wherein the timing error detector is adapted to detect an amount of timing error based upon an average of the values for first and second symbol samples minus a value of an intersymbol sample between the first and second symbol samples.” Applicant respectfully submits that this is clearly different than the above cited portion of Ahn.

Furthermore, Applicant respectfully submits that Ahn at paragraph [0048], arguably, teaches that timing error is detected by multiplying a difference of two symbol samples and an intermediate sample. Applicant respectfully submits that multiplying two symbol samples and an intermediate sample, as arguably taught by Ahn, is clearly different than using “an average of the values for first and second symbol samples minus

a value of an intersymbol sample” as recited in claim 1. Therefore, Ahn fails to disclose, teach or suggest the missing language. Applicant respectfully submits that Qureshi and Cannon also fail to teach, suggest or disclose the missing language. Consequently, the cited references, whether taken alone or in combination, fail to disclose, teach or suggest every element recited in claim 1.

For at least these reasons, Applicant submits that claim 1 is patentable over the cited references, whether taken alone or in combination. In addition, claims 13, 16, 20, 26, 29, 32 and 41 recite features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claims 13, 16, 20, 26, 29, 32 and 41 are not obvious and are patentable over the cited references for reasons analogous to those presented with respect to claim 1. Accordingly, Applicant respectfully requests removal of the obviousness rejection with respect to claims 1, 13, 16, 20, 26, 29, 32 and 41. Furthermore, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. Accordingly, Applicant respectfully requests withdrawal of the obviousness rejection with respect to claims 2, 4-12, 14-15, 17-19, 22, 23, 25, 27-28, 30-31, 34-38 and 43 that depend from claims 1, 13, 16, 20, 26, 29, 32 and 41 respectively, and therefore contain additional features that further distinguish these claims from the cited references.

For at least the above reasons, Applicant submits that claims 1, 2, 4-20, 22, 23, 25-32, 34-38, 41 and 43 recite novel features not shown by the cited references. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited references. Accordingly, Applicant submits that the claims are not anticipated nor rendered obvious in view of the cited references.

Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above. Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

It is believed that claims 1, 2, 4-20, 22, 23, 25-32, 34-38, 41 and 43 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

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Examiner: Tran, Khai
TC/A.U. 2611

The Examiner is invited to contact the undersigned at 724-933-9338 to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 deposit account 50-4238.

Respectfully submitted,

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John F. Kacvinsky, Reg. No. 40,040
Under 37 CFR 1.34(a)

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